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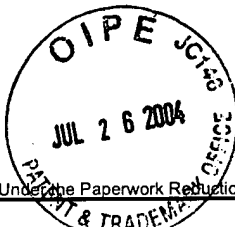
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**DECLARATION FOR UTILITY OR
DESIGN
PATENT APPLICATION
(37 CFR 1.63)**Declaration
Submitted
With Initial
Filing

OR

Declaration
Submitted after Initial
Filing (surcharge
(37 CFR 1.16 (e))
required)

Attorney Docket Number

HES 2003-IP-012204U1

First Named Inventor

Roger L. Schultz

COMPLETE IF KNOWN

Application Number

10/808,986

Filing Date

03/25/2004

Art Unit

3749

Examiner Name

unknown

I hereby declare that:

Each inventor's residence, mailing address, and citizenship are as stated below next to their name.

I believe the inventor(s) named below to be the original and first inventor(s) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

Apparatus and Method For Creating Pulsating Fluid Flow, And Method of Manufacture For the Apparatus

(Title of the Invention)

the specification of which



is attached hereto

OR



was filed on (MM/DD/YYYY)

03/25/2004

as United States Application Number or PCT International

Application Number

10/808,986

and was amended on (MM/DD/YYYY)

(if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or (f), or 365(b) of any foreign application(s) for patent, inventor's or plant breeder's rights certificate(s), or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent, inventor's or plant breeder's rights certificate(s), or any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached?	
				Yes	No
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

☐ Additional foreign application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.


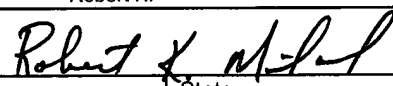
[Page 1 of 2]

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 21 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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DECLARATION — Utility or Design Patent Application

Direct all correspondence to: <input checked="" type="checkbox"/> Customer Number: <input type="text" value="29920"/>				OR <input type="checkbox"/> Correspondence address below	
Name					
Address					
City		State		ZIP	
Country		Telephone		Fax	
I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.					
NAME OF SOLE OR FIRST INVENTOR:				<input type="checkbox"/> A petition has been filed for this unsigned inventor	
Given Name (first and middle [if any]) Roger L.				Family Name or Surname Schultz	
Inventor's Signature 				Date 16-JULY, 04	
Residence: City Aubrey		State TX		Country U.S.	
Citizenship U.S.					
Mailing Address 4792 Red Oak Circle					
City Aubrey		State TX		ZIP 76227	
Country U.S.					
NAME OF SECOND INVENTOR:				<input type="checkbox"/> A petition has been filed for this unsigned inventor	
Given Name (first and middle [if any]) Robert K.				Family Name or Surname Michael	
Inventor's Signature 				Date 6-15-04	
Residence: City Frisco		State TX		Country U.S.	
Citizenship U.S.					
Mailing Address 12352 Patmos Lance					
City Frisco		State TX		ZIP 75034	
Country U.S.					
<input checked="" type="checkbox"/> Additional inventors or a legal representative are being named on the 1 supplemental sheet(s) PTO/SB/02A or 02LR attached hereto.					



PTO/SB/02A (08-03)

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DECLARATION**ADDITIONAL INVENTOR(S)**

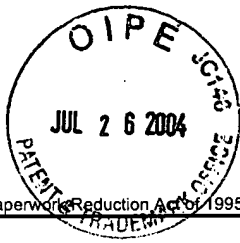
Supplemental Sheet

Page 1 of 1

Name of Additional Joint Inventor, if any:		<input type="checkbox"/> A petition has been filed for this unsigned inventor	
Given Name (first and middle (if any))		Family Name or Surname	
Pete C.		Dagenais	
Inventor's Signature <i>Pete C. Dagenais</i>		Date <i>6/15/04</i>	
The Colony Residence: City	TX State	U.S. Country	U.S. Citizenship
4009 Heron Cove Mailing Address			
Mailing Address			
The Colony City	TX State	75056 Zip	U.S. Country
Name of Additional Joint Inventor, if any:		<input type="checkbox"/> A petition has been filed for this unsigned inventor	
Given Name (first and middle (if any))		Family Name or Surname	
Michael L.		Fripp	
Inventor's Signature <i>Michael L. Fripp</i>		Date <i>7/15/04</i>	
Carrollton Residence: City	TX State	U.S. Country	U.S. Citizenship
2128 Tiburon Drive Mailing Address			
Mailing Address			
Carrollton City	TX State	75006 Zip	U.S. Country
Name of Additional Joint Inventor, if any:		<input type="checkbox"/> A petition has been filed for this unsigned inventor	
Given Name (first and middle (if any))		Family Name or Surname	
James C.		Tucker	
Inventor's Signature <i>James C. Tucker</i>		Date <i>7/20/04</i>	
Springer Residence: City	OK State	U.S. Country	U.S. Citizenship
HC 60, Box 108 Mailing Address			
Mailing Address			
Springer City	OK State	73458 Zip	U.S. Country

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 21 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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**STATEMENT UNDER 37 CFR 3.73(b)**Applicant/Patent Owner: Roger L. Schultz et al.Application No./Patent No.: 10/808,986 Filed/Issue Date: 03/25,2004Entitled: Apparatus and Method for Creating Pulsating Fluid Flow, and Method Of Manufacture For The ApparatusHalliburton Energy Services, Inc., a corporation

(Name of Assignee)

(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:

1. ☒ the assignee of the entire right, title, and interest; or2. ☐ an assignee of less than the entire right, title and interest.The extent (by percentage) of its ownership interest is _____ %
in the patent application/patent identified above by virtue of either:A. ☒ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.**OR**B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as shown below:

1. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

2. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.☐ Additional documents in the chain of title are listed on a supplemental sheet.☒ Copies of assignments or other documents in the chain of title are attached.

[NOTE: A separate copy (i.e., the original assignment document or a true copy of the original document) must be submitted to Assignment Division in accordance with 37 CFR Part 3, if the assignment is to be recorded in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

21 JUL 04
Date580.251.3782
Telephone numberJohn W. Wustenberg
Typed or printed nameJohn W. Wustenberg
SignatureCounsel
Title

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

ASSIGNMENT

Whereas, I/We, Roger L. Schultz, of Denton County, Aubrey, Texas; Robert K. Michael, of Collin County, Frisco, Texas, and Pete C. Dagenais, of Denton County, The Colony, Texas; Michael L. Fripp, of Denton County, Carrollton, Texas and James C. Tucker of Carter County, Springer, Oklahoma, have invented APPARATUS AND METHOD FOR CREATING PULSATING FLUID FLOW, AND METHOD OF MANUFACTURE FOR THE APPARATUS for which I have made application for Letters Patent of the United States; and

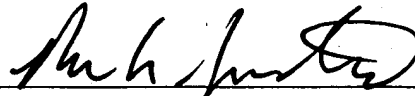
Whereas, HALLIBURTON ENERGY SERVICES, INC., a Delaware Corporation, having a place of business at 10200 Bellaire Boulevard, Houston, Texas 77072 is desirous of acquiring an interest therein;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I/We, by these presents do sell, assign and transfer and convey unto HALLIBURTON ENERGY SERVICES, INC., its successors and assigns, the full and exclusive right, for the United States of America and its territorial possessions and for any and all foreign countries, in and to the said invention, described in the Patent Application serial number_ 10/808,986 filed on March 25, 2004, and any divisional, continuing or reissue application based on the present application preparatory to obtaining Letters Patent of the United States therefor; said invention, application and any and all Letters Patent issuing therefor to be held and enjoyed by HALLIBURTON ENERGY SERVICES, INC., for its own use and behoof, and for its legal representatives, successors and assigns, to the full end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held by me and had this assignment and sale not been made.

And I do further agree to sign all papers, make all rightful oaths and do all requisite acts for the filing of any disclaimer or for the filing and assignment of any divisional, continuing or reissue application or applications for patent based on the present application, as well as for any other U.S. or foreign application for patent which relates to the said invention.

And I do further agree to communicate to HALLIBURTON ENERGY SERVICES, INC., its successors, assign or other legal representatives, such facts relating to the invention disclosed in the present application or Letters Patent issuing thereon as may be known to me, and to testify as to such facts in any interference or other litigation.

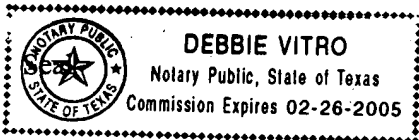
Executed this 16th day of June, 2004, at Carrollton, Dallas County, Texas, U.S.A.



Roger L. Schultz

STATE OF TEXAS)
) ss
COUNTY OF DALLAS)

Before me personally appeared said Roger L. Schultz and acknowledged the foregoing instrument to be his free act and deed this 16th day of June, 2004.





(Notary)

My Commission Expires: 2-26-05

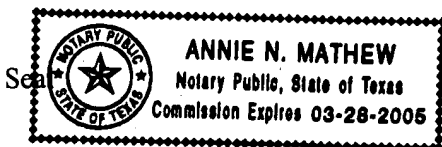
Executed this 15th day of June, 2004, at Carrollton, Dallas County, Texas, U.S.A.

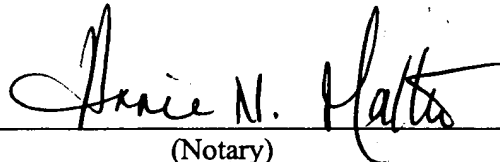


Robert K. Michael

STATE OF TEXAS)
) ss
COUNTY OF DALLAS)

Before me personally appeared said Robert K. Michael and acknowledged the foregoing instrument to be his free act and deed this 15th day of June, 2004.





(Notary)

My Commission Expires:

Executed this 15 day of June, 2004, at Carrollton, Dallas County, Texas, U.S.A.

Pete C. Dagenais
Pete C. Dagenais

STATE OF TEXAS)
) ss
COUNTY OF DALLAS)

Before me personally appeared said Pete C. Dagenais and acknowledged the foregoing instrument to be his free act and deed this 15th day of June, 2004.



Annie N. Mathew
(Notary)

My Commission Expires:

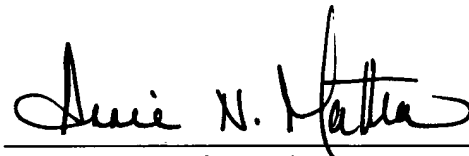
Executed this 16 day of July, 2004, at Carrollton, Dallas County, Texas, U.S.A.


Michael L. Fripp

STATE OF TEXAS)
) ss
COUNTY OF DALLAS)


Before me personally appeared said Michael L. Fripp and acknowledged the foregoing instrument to be his free act and deed this 16th day of July, 2004.




(Notary)

My Commission Expires: 3-28-2005


Executed this 20th day of July, 2004, at Duncan, Stephens County, Oklahoma, U.S.A.


James C. Tucker

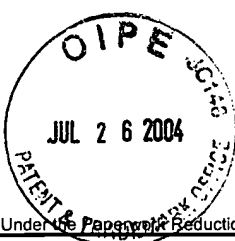
STATE OF OKLAHOMA)
) ss
COUNTY OF STEPHENS)

Before me personally appeared said James C. Tucker and acknowledged the foregoing instrument to be his free act and deed this 20th day of July, 2004.

Seal


(Notary)

My Commission Expires: September 13, 2004
Commission Number: 00014119



PTO/SB/81 (09-03)

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**POWER OF ATTORNEY
and
CORRESPONDENCE ADDRESS
INDICATION FORM**

Application Number	10/808,986
Filing Date	03/25,2004
First Named Inventor	Roger L. Schultz
Title	Apparatus and Method for
Art Unit	3746
Examiner Name	unknown
Attorney Docket Number	HES 2003-IP-012204U1

I hereby appoint:

☐ Practitioners associated with the Customer Number:

OR

☒ Practitioner(s) named below:

Name	Registration Number
see attached	

as my/our attorney(s) or agent(s) to prosecute the application identified above, and to transact all business in the United States Patent and Trademark Office connected therewith.

Please recognize or change the correspondence address for the above-identified application to:

☐ The address associated with the above-mentioned Customer Number:

OR

☐ The address associated with Customer Number:

OR

<input type="checkbox"/> Firm or Individual Name				
Address				
Address				
City	State	Zip		
Country				
Telephone	Fax			

I am the:

☐ Applicant/Inventor.☒ Assignee of record of the entire interest. See 37 CFR 3.71.
Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)**SIGNATURE of Applicant or Assignee of Record**

Name	John W. Wustenberg		
Signature			
Date	21 JUL 04	Telephone	580.251.3782

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☐ *Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.31 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Please type a plus sign (+) inside this box → **+**

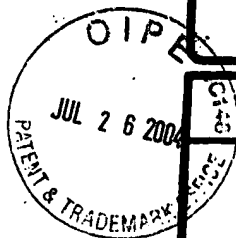
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DECLARATION

REGISTERED PRACTITIONER INFORMATION (Supplemental Sheet)



CIS 6-97	Name	Registration Number	Name	Registration Number
	Halliburton Energy Services, Inc. Practitioners		Baker Botts Practitioners	
	William E. Shull	29,438	Scott F. Partridge	28,142
	William M. Imwalle	35,904	Mitchell D. Lukin	30,772
	Robert A. Kent	28,626	Carey C. Jordan	47,646
	Craig W. Roddy	36,256	R. William Beard	47,646
	John W. Wustenberg	35,415	Paul R. Morico	35,960

Submit Your Statement: This form is estimated to take 0.4 hours to complete. Time will vary depending upon the needs of the individual user. Any comments on the content of this form are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20501. **DO NOT SEND FEES ON COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20501.**

Declaration — Registered Practitioner Information (Supplemental Sheet) (PTO/BB/02C)(1-1.4)